

NASA TECH BRIEF

Manned Spacecraft Center



NASA Tech Briefs announce new technology derived from the U.S. space program. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Office, NASA, Code KT, Washington, D.C. 20546.

Multifunction Audio Digitizer for Communications Systems

An audio digitizer that accomplishes both "N" bit PCM and delta modulation has been developed for use in advanced communication systems. It was designed specifically for audio application and provides modulation indicating variable signal gain, and variable sidetone.

The digitizer has no frequency-dependent parameters or components and consists of an active device count of four dual-in-line packages for the minimum standards and resolution of four bit PCM. The system can easily be increased to eight bits PCM by the addition of another four bit counter and a different D to A converter.

Other features of the digitizer include: a lower package count than most PCM or delta modulation systems; a clock rate that may be varied to optimize bandwidth, and a PCM output that can easily be expanded without major circuit modification.

This circuit is applicable as a building block for advanced communications systems. It represents a simplified audio modulation technique and should be of interest to manufacturers of data communication equipment.

Note:

Requests for further information may be directed to:

The Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: TSP71-10318

Patent status:

This invention is owned by NASA, and a patent application has been filed. Royalty-free, nonexclusive licenses for its commercial use will be granted by NASA. Inquiries concerning license rights should be made to:

The Patent Counsel
Code AM
NASA Manned Spacecraft Center
Houston, Texas 77058

Source: Leo G. Monford, Jr.
Manned Spacecraft Center
(MSC-13855)

Category 02